# 2005-2007 IT PLAN Summary - Agency Budget Request

## 00770 WATER COMMISSION

2005B0100770

## AGENCY IT OVERVIEW

**The State Water Commission (SWC) is responsible for the management and regulation of the water rsources in the State of North Dakota. The SWC currently maintains a staff of 82 employees, which are separated in five divisions: Administration and Support Services, Planning and Education, Water Appropriations, Water Development, and the Atmospheric Resource Board.**

**The SWC utilizes information technology in almost all aspects of water resource management. Effective management of the state's water resources requires large-scale data collection programs that generate large volumes of hydrologic data. Given the volume and the complexity of the data resources, it is not possible to effectively manage the state's water resources using manual methodologies.**

**The current IT infrastucture includes comprehensive data management capabilities that provide integrated solutions for data collection, management, and analysis. Increasing demand for the state's water resources will continue to place additional demand on the SWC to develop more comprehensive analysis capabilities with seamless integration of both spatial and non-spatial systems. While the current management focus is primarily based upon non-spatial components of the data, the management focus will need to change to include a more effective approach for integrating the management of both the spatial and non-spatial systems. In order to achieve this, the SWC began integrating GIS technologies into the agency IT management infrastructure during the 2003-05 biennium. The implementation of GIS within core management functions will continue to drive significant changes in the IT for the SWC over much of the next several biennia.**

## AGENCY IT PLAN CONTACT DATA

**Agency Contact Information**

**Christopher D. Bader**
**Information Systems Manager**
**(701) 328-4771**
**cbader@state.nd.us**

## AGENCY TECHNOLOGY GOALS AND OBJECTIVES

**Accomplishments**

**Most of the goals outlined in the SWC strategic plan submitted in 2002 were operational goals, and the SWC is on track to achieve most of these goals. Notable accomplishments include:**

*** The agency network was upgraded from 10 megabit to 100 megabit. The Network wiring infrastructure was upgraded to accommodate gigabit capabilities. However, ITD does not support gigabit network access to the desktop within the building as their switching equipment does not yet support gigabit network speeds**

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*** In July of 2002, the agency purchased a large format scanner for purposes of completing watershed delineation associated with a federal grant. This system was also used to address many other scanning needs for the agency, which included the preservation of the original Government Land Office (GLO) survey plats. This project was completed in 2003.**

*** The agency purchased two new digital photocopiers with network printing and scanning functionality. The additional functionality provided by the high speed scanners has provided the agency with the necessary utilities to complete the digital conversion of many paper records including the Private Drillers Logs, the state Water Permits records, and statewide survey data. At this point, much of the survey datat has been digitized. Nearly 30% of the Private Drillers Logs have been digitized, and work will begin on the state Water Permit records later this fall.**

*** The agency has extended support over the web to additional data resources that have been developed internally, these include such resources as the Government Land Office survey plats, and Private Drillers Log reports.**

*** The agency has completed the initial development and implementation of the GIS infrastructure that will be utilized for management of the state's water resources. Currently, the agency is completing the initial stages of integrating this new GIS infrastructure with existing data management platforms.**

**The Water Commission has completed many of the initiatives defined in previous strategic plans, and the basic IT infrastructure has been updated to accommodate the demands that the agency will face in the future. Currently, the basic infrastructure has been created to address the spatial resources. This infrastructure has also been extended and integrated with existing non-spatial systems. With these basic elements in place, the agency can now move forward to address many of the more complex tool requirements that will be used in water resource management over the next several years.**

***GOAL*** - The agency will maintain and enhance the current technology infrastructure to provide sufficient flexibility to meet the changing requirements associated with water resource management.

Objectives

- Maintain a replacement policy that is based upon a four year life-cycle. The four-year life-cycle is more in line with the state guidelines and is more consistent with the life-cycle of the technology. (Short/Medium/Long)
- Evolve and enhance the technology infrastructure to accommodate analytical scientific tools. (Short/Medium/Long)
- Maintain software currency as software revisions are made available (Short/Medium/Long)
- Enhance the software base with newer software technology as it becomes available. (Short/Medium/Long)

***GOAL*** - The agency will develop training programs and procedures to provide better integration and use of information technology throughout the agency.

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Objectives

- The agency will investigate and implement training procedures to insure that the technology infrastructure is effectively utilized. (Short/Medium/Long)

***GOAL*** - The agency will enhance and evolve public access to the various types of information that is generated and maintained by the SWC.

Objectives

- Enhance the capabilities for public access to the data managed by the SWC, which includes the state's Well Inventory, Water Permits, Precipitation, Dams, Drains, Wetlands, and other miscellaneous data. This also include the development of better tools to accommodate more functional methods for presenting this data in functional and useful formats (i.e. graphical display of temporal and 3D relationships within the data, etc.) (Medium)

- Adopt and integrate GIS technology with the Internet to provide a spatial perspective for the data resources managed by the SWC. (Short/Medium/Long)

- Explore and evaluate options to develop and expand database capabilities to include legal documentation for purposes of making this information available over the Internet. (Medium/Long)

***GOAL*** - The agency will maintain and enhance the existing communications infrastructure to accommodate the increasing communications requirements for data and voice.

Objectives

- The agency will continue to maintain and evolve the network to accommodate increased bandwidth requirements. (Short)

- The agency will improve teleconferencing and video conferencing technologies to improve public access to Water Commission meetings and to reduce transportation costs associated with employee travel.

***GOAL*** - To support and enhance the operational capability of the North Dakota Cloud Modification Project and research projects in the Cooperative Research program by acquiring and providing meteorological data, products, analysis, forecasting, nowcasting, and aircraft tracking.

Objectives

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- Acquire and manipulate forms of meteorological data to provide meteorological products, forecasting, and nowcasting support to the North Dakota Cloud Modification Project (NDCMP) and any associated project within the Cooperative Research program. (Short/Medium/Long)
- Enhance the operational software base through updates and user-group interaction. (Short/Medium/Long)
- Continue to acquire meteorological data and provide field support with meteorological products, forecasting, and nowcasting of summer convective weather for operational and research projects. (Short/Medium/Long)
- Evolve with the changing state of technology in weather analysis and forecasting to enhance the products produced. (Short/Medium/Long)

***GOAL*** - GIS will play in increasingly important role in the development of sound management tools for water resource management. With the recent development of the state GIS hub and internal agency GIS resources, the SWC has recently started the development of a much more structured approach to the management and utilization of the spatial data and resources. This necessitates the need to maintain and enhance the GIS infrastructure that the agency is currently constructing.

Objectives

- The agency will need to enhance and develop additional training resources for the use of GIS within the agency. A comprehensive training program will need to include both internal training using existing personnel and external training provided b

The IT processing has increased due to the Connect ND charges. The IT Equipment was increased to approach the 4 year replacement cycle for desktop PC's. In addition, IT salaries were decreased because the agency retasked the duties of 2 FTE's to functions other than IT.

| | | | |
|---|---|---|---|
| Number of Desktop Computers | 102 | Windows 98 | 0 |
| Number of Desktop Computers planned to be replaced | 50 | Wndows NT | 0 |
| Aveage cost of Desktop Computer Replacements | 2000 | Windows 2000 | 62 |
| Number of Laptop Computers | 13 | Windows XP | 1 |
| Number of Laptop Computers Planned to be replaced | 6 | Other | 36 |
| Aveage cost of Laptop Computer Replacements | 2700 | | |

**Number of PC's by Region**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 1 | 0 | 114 | 0 |

**Agency Technology Activities**

**SWC IT Value Matrix**

The State Water Commission (SWC) is responsible for the management and regulation of the water resources in the State of North Dakota. The mission of the agency and the State Engineer . .

> *. . . is to improve the quality of life and strengthen the economy of North Dakota by managing the water resources of the state for the benefit of its people . . .*

The SWC utilizes information technology to support almost all facets of the business operations surrounding water resource management. Agency IT requirements are generally driven by the scientific applications used for water resource analysis. Advanced data analysis, research, data modeling, and engineering applications are used routinely combined with customized applications that are developed internally. Because of the wide range and diversity of applications used, the IT infrastructure must be open and extensible. An open framework will support a wide range of diverse applications, which makes it possible to easily scale and evolve the IT infrastructure to accommodate any changes in current initiatives as well as any new initiatives.

In 1999, the SWC developed a needs assessment that addressed the scientific and engineering requirements for the agency as it moved forward. This needs assessment ultimately led to the strategic planning that laid the foundation for the current infrastructure. Within this assessment, the framework that was defined identified significant investments that would be required in the IT infrastructure, if the agency was to continue to meet it's water resource management obligation in the years to come. Over the past two biennia, the SWC's IT infrastructure has been completely re-engineered to provide a framework for the agency to develop the necessary tool base to meet the challenges that the agency will face over the next two decades. In order to accomplish this, the agency needed to address four key areas; data management, GIS services, computational capabilities, and storage management.

**Data Management**

Data collection is an integral part of many of the SWC's on-going water resource management operations. Water resource data pertaining to water levels, water chemistry, and well information is collected for purposes of monitoring impacts to North Dakota's ground and surface water resources. This includes on-site data collection by agency field staff and private contractors, and continuous data collected using electronic methods. The SWC also collects real-time data for radar and flight operations for the North Dakota's weather modification and hail suppression program. GPS technology is used to collect real-time data within many of the flight operations. GPS technology is also used to generate the necessary survey base for construction projects and many other site-specific projects requiring spatial reference information.

The SWC maintains cooperative reporting programs for purposes of collecting water use information, private domestic drilling information, and observed precipitation information. In addition, the SWC is involved with a variety of data collection efforts to obtain site specific information relevant to water permits, dams, drains, wetlands, and other construction projects that pertain to water diversion or retention. The SWC also routinely collects and processes aerial photography for many areas where there has been significant irrigation development for purposes of monitoring the irrigation, evapo-transpiration, and other parameters relevant to water resource management.

The SWC has implemented a wide range of technology solutions within various aspects of the data collection programs. The SWC has implemented electronic monitoring tools in many of the data collection programs in an effort to provide more accurate data and to reduce overall cost associated with data collection. This includes the use of electronic transducers for purposes of monitoring water levels in real-time. In addition to electronic collection efforts, technology has also been introduced in the form of hand-held devices and laptops to facilitate field entry and eliminate re-entry into back office systems.

The SWC has developed a fairly extensive data management infrastructure to accommodate the volume of data that is collected. This data management infrastructure has been developed to address the unique needs associated with management of water resource data, which include both spatial and temporal components. The SWC has extended the data management to include tools and resources that aid in data collection and data analysis processes.

The data management infrastructure currently maintained by the SWC is based upon a distributed client-server architecture. Given the diverse types of data collected combined with the broad range of analysis requirements, the SWC has expended considerable effort to establish an open and extensible management infrastructure that will support the very different types of data and the associated collection, management, and analysis efforts. This infrastructure currently supports industry connectivity standards, including ODBC, JDBC, XML, Web Services, Oracle OCI, and many others. At this point, the SWC can push or pull data to almost any commercial software that uses standard communications protocols, and all of the data collected by the SWC is available for public access over the web.

Currently, the SWC maintains a data management system with more than 2.5 million records. This includes water levels, well information, chemistry, lithology, water permits, water use, dams, drains, diversion structures, wetland information, precipitation, and survey notes. In addition to these data resources, the agency also maintains significant spatial data resources in the form of vector and raster data sets maintained within the state GIS hub.

**GIS Services**

As part of the needs assessment that was developed in 1999, the SWC identified the role that GIS would play in the development of future water management resources. This assessment clearly identified the size and scope of the infrastructure required to provide the necessary GIS resources. Given the size of the user base that would be served at the SWC, it was not cost effective for the SWC to develop core components of this infrastructure internally. Therefore, recommendations were made for ITD to provide these core components of the infrastructure so that they could be extended to a larger user base. The SWC worked closely with ITD to develop the strategic and funding requirements necessary to provide the state with a shared GIS infrastructure capable of delivering base GIS services for the state government users. The SWC has also been instrumental in the data development and implementation of the state GIS hub.

While the GIS hub provides many of the core services required for the SWC's GIS initiative, the majority of tools and management functions required for water resource management will need to be designed and built internally in order for these services to provide value to the agency and the state. The SWC obtained significant funding increases for IT during the 2001-03 and 2003-05 biennium for purposes of obtaining the necessary tools and training to develop the tools base required by the agency. As a result, many of the tools and analysis components are now in place, and the SWC is moving forward to integrate these into current management programs.

**Computational Services**

Increasing demands for more comprehensive analysis of surface, subsurface, and atmospheric systems is driving the agency to develop more sophisticated modeling capabilities. Currently, the agency uses a variety of modeling tools available from the US Geological Survey, US Bureau of Reclamation, the US Army Corps of Engineers, and other sources. These tools are used to provide insight into the environmental and geologic characteristics of these systems so that the agency can develop better operational and management methods for the respective systems.

While many of these tools have been available for some time, the application of these tools has evolved in recent years and utilization of these tools now demand far more resources to achieve useful results. In most cases, the model requirements exceed the computational capabilities available on a single desktop or server. The current server base that has been deployed provides tools capable of addressing the computational requirements for the next generation of ground water, soil profile, surface water, and atmospheric models. This technology can also be extended beyond the server core to include the higher end desktop workstations. This feature allows the agency to leverage not only the server core, but also all of the higher end desktops to extend the computational resources as needs grow and evolve. Because of the nature and extensibility of the core IT infrastructure, the SWC can develop, grow, and evolve super-computer class computational resources for little or no cost.

**Storage Management**

The SWC is responsible for many paper data resources for which there are no duplicates. This includes the General Land Office (GLO) survey plats, Survey Notes, Water Permits, Drillers Logs, and many other resources. Currently, these resources exist in paper form and there are no backup copies available, and many of these records are deteriorating with age. In order to preserve and maintain these data resources, the SWC is in the process of scanning these documents to provide digital copies to be used in-house and to provide a means of storing a copy off-site for disaster recovery purposes. In addition, these resources can be made readily available to the general public as well.

Over the past twenty years, the SWC has collected aerial imagery and other remotely sensed data of many areas where irrigation development is growing and in areas where there has been flooding or flooding concerns. This imagery is an invaluable resource for determining and documenting hydrologic conditions relevant to specific events. Historically, this imagery was provided in paper form. However, with improvements in GIS and image technology, this data can now be used within GIS to provide better utilization of the data. Therefore, the SWC is currently digitizing the image resources that are available within the agency.

In addition to digitizing many of the historic paper records and the imagery, the SWC has also increased the volume of data that has traditionally been collected for water resource monitoring through the use of continuous recorders and other means. This has resulted in significant increases in the data that is collected and maintained by the SWC.

In order to accommodate the increased storage requirements, the storage infrastructure for the SWC has been completely re-engineered to provide a more functional and systematic means for managing the storage for the agency. First, it was necessary to provide storage services that were independent of the server resources so that available storage could easily be increased as additional data becomes available. By separating storage

and servers, the storage services can also be used more efficiently across the entire server base.

**Return on Investment**

It is very difficult to look at the SWC's IT and separate it from the context of the agency business model to determine the effectiveness of that investment. If you instead look at the agency business model, there are many factors that require consideration in order to make this type of assessment, and many of these are rather subjective. For purposes of the strategic plan, the effectiveness of the IT investment will be developed by comparing the costs of the existing system at the SWC to the costs that would be incurred if the same services were provided by ITD. This includes File and Print services, storage, application services, application development, and web services. The estimates used here are based upon ITD's current rate structure.

***File and Print Services***

File Services are currently maintained at the SWC on an internal server that also provides many other services, which include network monitoring, directory services, and others. This server is also used to manage the computational services that are being implemented on the server core. The SWC currently does not use any print services. Costs to implement File Services from ITD would present a server cost of $14,400 for the biennium and user fees of $4,080 for a total of $18,480. This service would be dedicated to File and Print services and would not address any of the other services currently maintained on the agency internal server.

***Application Services / Web Services***

The SWC currently maintains eight separate application services that provide the application base and data management services for the agency. ITD' s current rate structure is tiered. However, based upon discussions with ITD, the SWC could be looking at a monthly rate of approximately $375 per application. This translates to $72,000 for the biennium. In addition to the application services, the SWC also maintains a web service application that is fully integrated with current data management systems. This application would also require some re-design, but just the monthly web service hosting fees would have a biennial cost of $9,000. This brings the total application and web service hosting fees to $81,000 per biennium.

***Storage Services***

Storage demands for the SWC are measured in terabytes, not gigabytes or megabytes. The SWC is involved with various state and federal partners where large data collection efforts are underway or have been completed. Many of these collection efforts have yielded aerial photography, LIDAR, satellite imagery, and other types of data products that have large storage requirements. Most of the imagery and data products are currently either not on-line (i.e. they are stored on CD-ROM, DVD, or Tape) or they are not yet in digital format (i.e. they currently exist in paper format only). It has not been practical or feasible to put these data products on-line until just recently as a direct result of the availability of cost-effective data storage.

The SWC currently maintains storage services with approximately 11.5 terabytes of available storage. All of this storage would be equivalent to ITD's current Silver storage service, which ITD provides at $5/GB/month. Using this rate structure, total biennial storage costs for 11.5 terabytes would be $1,380,000. In addition to the storage requirements, the SWC will also require tape archival of components of this data. Using ITD's current rate structure for tape archive, the biennial cost for tape archive would be approximately $165,000. When combined with the storage costs, this brings the total biennial storage cost to $1,545,000.

***Application Development***

The SWC began using 4th Dimension (4D) in 1990 for purposes of data manipulation and data management because the solutions available from ITD were not capable of meeting agency requirements. The 4D environment extends beyond data management to provide integrated application services. This environment has grown over the past 15 years, and 4D is now the primary data management and application base used by the agency.

The agency has re-evaluated the 4D infrastructure in responses to changes at ITD. While previous ITD (CDP at the time) mainframe solutions did not provide the necessary flexibility, more recent ITD solutions using Oracle could provide the necessary flexibility to meet agency data management requirements. However, maintenance costs associated with data management built around the Oracle infrastructure was found to be more than 10 times that of the current infrastructure, and this did not include the costs of re-designing and re-building the existing 4D infrastructure. Therefore, the agency elected to maintain the 4D infrastructure.

If the consolidated infrastructure provided by ITD is to be utilized, the SWC's current application and data management base will need to be re-designed and rebuilt to run within ITD's supported infrastructure using Oracle for data management and Java for application services. Without a detailed cost estimate, projecting the design costs for the SWC's existing systems is somewhat subjective. However, this exercise does serve to provide a framework for consideration. The estimates presented here were derived by projecting the number of hours anticipated for this type of project. Once the hours were identified, ITD's rate structure for programming and project management were used to develop the cost projections.

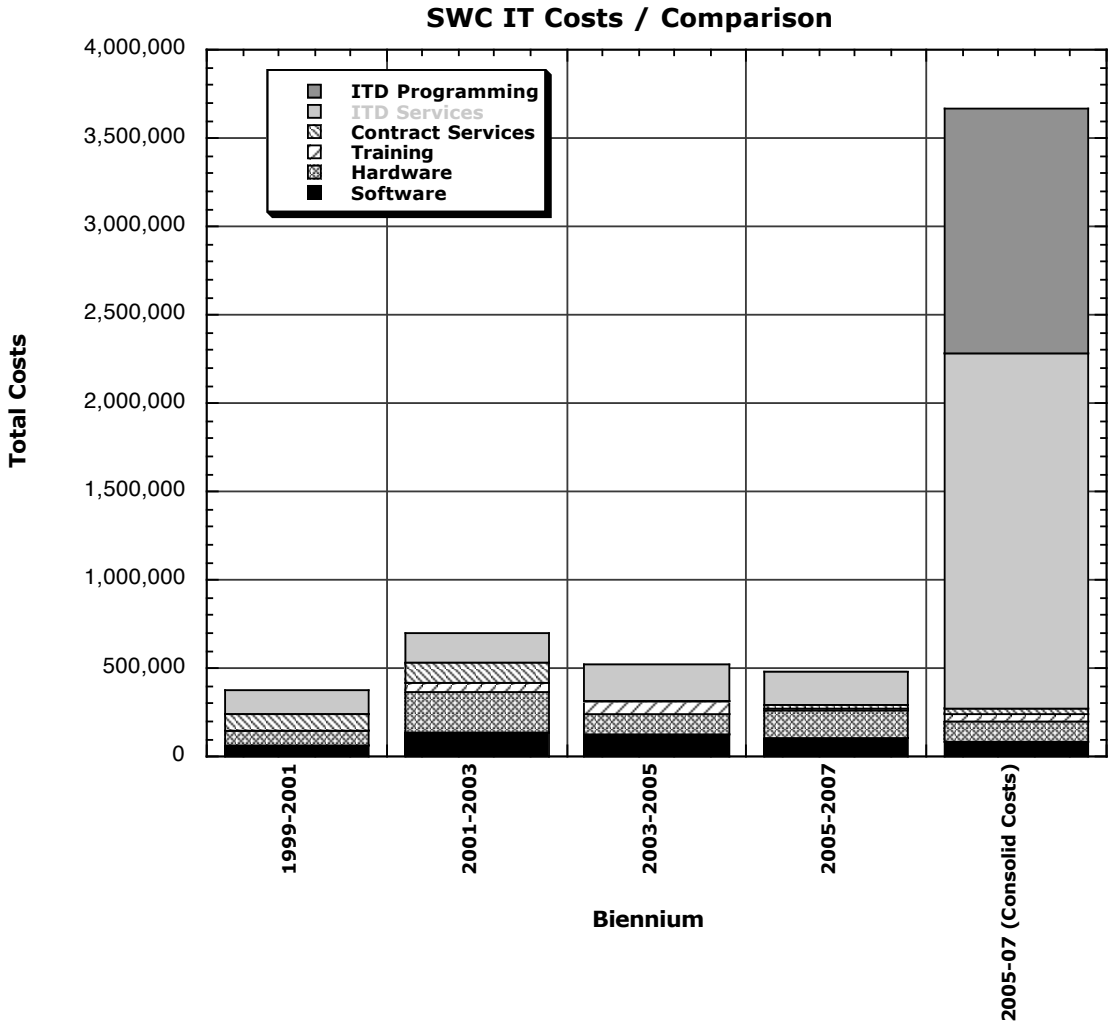
The SWC currently maintains eight application services for general data management that would require re-tooling. In addition, the SWC web services application would also require a significant amount of work to provide the same integration with the new data management infrastructure. In order to rebuild all of the existing services, the SWC has estimated an initial programming overhead of 22,450 hours at a rate of $54/hour. In addition, estimates for project management were placed at 2,150 hours at a rate of $80/hour. The estimates derived for project management were somewhat low because in this case the existing systems should provide a reasonable design, which should reduce the time spent in project management. Using these estimates, the SWC has identified a total cost for rebuilding the current application infrastructure to be $1,384,300. These estimates do not include agency staff time for training relevant to the new system, nor does it include down time and lost time. These estimates also do not include costs and overhead associated with maintaining parallel development efforts that will be required if the agency is to move forward with the existing 4D system during the two to three year period in which the new systems are under construction.

**Summary**

There will be unforeseen costs beyond those presented that will impact the overall costs associated with consolidation. However, the costs presented here provide sufficient detail to compare the agency's current infrastructure costs with those provided under the consolidated model. If the consolidated model has been identified as the most cost effective model for state government, then cost savings should be available to the SWC by implementing this model.

The IT budget for the SWC is presented below for the last three biennia along with the projected budget for the 2005-07 biennium. In addition, the last column includes the costs projected for the 2005-07 biennium if the agency were to pursue the consolidated infrastructure provided by ITD. Only core IT services were included so that the price differences could be presented more clearly. For the costs projected for the 2005-07 under the consolidated infrastructure, ITD Services includes the $184,917 that is currently projected for the agency budget as this is network and telephone fees that will still be required. Also, the hardware and software items were lowered for the consolidation alternative to reflect the reductions in server infrastructure.

| Biennium | 1999-01 | 2001-03 | 2003-05 | 2005-07 (current) | 2005-07 (Consolid) |
|---|---|---|---|---|---|
| ITD Services | 132,155 | 163,148 | 205,352 | 184,917 | 2,014,000 |
| ITD Programming | | | | | 1,384,000 |
| Contract Services | 93,000 | 123,773 | 3,317 | 23,945 | 24,000 |
| Training | 4,000 | 42,500 | 7,500 | 10,000 | 45,000 |
| Hardware | 84,000 | 237,333 | 114,169 | 150,000 | 111,000 |
| Software | 59,000 | 133,730 | 129,944 | 109,500 | 89,000 |
| Total | 372,155 | 700,484 | 460,282 | 478,362 | 3,667,000 |




While there would be savings in both the hardware and software line items, these are more than offset by the increases in the ITD Services and ITD Programming line items. The overall total presents an increase in costs that would exceed $3.2 million dollars. While the ITD Programming line item does not represent an on-going cost once the transition has been completed, the on-going cost increases for ITD's services still represents an increase of over $1.8 million dollars a biennium. This is only offset by $59,000 dollars in savings in the hardware and software line items.

The FTE line item was not included in this analysis because of the differences in accounting for FTE applied to IT over this time period. Currently, the agency has 2 FTE's allocated to IT. Even if both positions were eliminated, the net cost increases from the consolidated infrastructure would still be more than $1.5 million dollars. However, it is not practical to eliminate both IT positions, as someone would be required to manage the agency services under the consolidated model as well.

In addition to the areas identified in this analysis where there are known costs, there are many other facets to the current infrastructure that were not identified or addressed. In particular, the computational services that the agency has developed

within the existing infrastructure would not be available within the consolidated model provided by ITD, and if they were to be developed, there would be additional costs associated with these.

In the end, return on investment can only be determined by applying subjective criteria to evaluate the performance of the SWC in fulfilling the water resource management mission for which it has been tasked. When the costs and functionality of the current IT model developed by the SWC is compared with implementation under the consolidated model provided by ITD, the SWC has performed extremely well and has implemented technology that is appropriate and cost effective to meet the agency business requirements. This has been defined and well documented over the years within the strategic planning process. If the agency is to accomplish the same tasks and provide the same functionality to agency staff and the same level of services to the general public using the consolidated infrastructure, it will cost the agency an additional $3.2 million for the first biennium with on-going costs increases of more than $1.8 million per biennium. Additional information and a more detailed breakdown of this information are available if needed.

**00770 WATER COMMISSION**

**2005B0100770**

| | | Current Appropriation | Budget Request | Optional Adjustments | Request Plus Optionals | Subsequent Biennium |
|---|---|---|---|---|---|---|
| **10** | SALARIES AND WAGES | | | | | |
| **SALARIES, WAGES & BENEFITS** | | **$0** | **$0** | **$0** | **$0** | **$0** |
| | **Total** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **30** | OPERATING EXPENSES | | | | | |
| **IT3002** | **IT-DATA PROCESSING** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **IT3003** | **IT TELEPHONE** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **IT3005** | **IT SOFTWARE/SUPPLIES** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **IT3008** | **IT CONTRACTUAL SVCS & REPAIRS** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **IT3038** | **IT EQUIPMENT UNDER $5000** | **$0** | **$0** | **$0** | **$0** | **$0** |
| | **Total** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **75** | ADMINISTRATIVE AND SUPPORT SERVICES | | | | | |
| **SALARIES, WAGES & BENEFITS** | | **$474,089** | **$241,900** | **$0** | **$241,900** | **$241,900** |
| **IT3002** | **IT-DATA PROCESSING** | **$79,529** | **$129,917** | **$0** | **$129,917** | **$129,917** |
| **IT3003** | **IT TELEPHONE** | **$55,000** | **$55,000** | **$0** | **$55,000** | **$55,000** |
| **IT3005** | **IT SOFTWARE/SUPPLIES** | **$124,500** | **$124,500** | **$0** | **$124,500** | **$124,500** |
| **IT3008** | **IT CONTRACTUAL SVCS & REPAIRS** | **$16,445** | **$16,445** | **$0** | **$16,445** | **$16,445** |
| **IT3038** | **IT EQUIPMENT UNDER $5000** | **$97,356** | **$97,356** | **$62,644** | **$160,000** | **$160,000** |
| | **Total** | **$846,919** | **$665,118** | **$62,644** | **$727,762** | **$727,762** |
| **76** | WATER AND ATMOSPHERIC RESOURCES | | | | | |
| **IT3003** | **IT TELEPHONE** | **$18,592** | **$18,842** | **$2,400** | **$21,242** | **$21,242** |
| **IT3005** | **IT SOFTWARE/SUPPLIES** | **$31,452** | **$0** | **$0** | **$0** | **$0** |
| **IT3008** | **IT CONTRACTUAL SVCS & REPAIRS** | **$52,850** | **$0** | **$0** | **$0** | **$0** |
| **IT3038** | **IT EQUIPMENT UNDER $5000** | **$30,908** | **$0** | **$0** | **$0** | **$0** |
| | **Total** | **$133,802** | **$18,842** | **$2,400** | **$21,242** | **$21,242** |
| Funding Source | | | | | | |
| **MR&I ADMINISTRATION** | | | **$1,625** | **$0** | **$1,625** | **$1,625** |
| **STATE GENERAL FUND** | | | **$677,460** | **$65,044** | **$742,504** | **$742,504** |
| **WATER COMMISSION FUND 770F** | | | **$4,875** | **$0** | **$4,875** | **$4,875** |

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| | Current Appropriation | Budget Request | Optional Adjustments | Request Plus Optionals | Subsequent Biennium |
|---|---|---|---|---|---|
| | | $683,960 | $65,044 | $749,004 | $749,004 |